I-81 Marketing Study

I-81 CORRIDOR
MULTI STATE MEETING
ROANOKE, VA
SEPTMEBER 22-23, 2004

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Presentation Outline

- Previous Studies
- Goals
- Study Process
- Current Situation
- Future Scenario
- Assumptions
- Study Results
- Policy Discussion

Previous Studies - *A Little History*

HJR 704 - Virginia Intermodal Feasibility Study (2001)

- Most of the trucks traveling more than 500 miles are passing through Virginia
- Intermodal facilities needed outside of Virginia

Previous Studies - *A Little History*

SJR 55 Diversion Study (2001)

- Potential diversions : 10% - 25%
- Need both I-81 highway improvements and rail improvements
- Look at improvements to alternate rail routes – Piedmont line (Rte 29 corridor)
- Detailed market analysis needed
- Analysis should be multi-state

I-81 Marketing Study Goal

- **Return on Investment Analysis**
  - Survey of shippers, freight forwarders and truckers to access their potential to use rail and under what conditions
  - Estimate potential diversions
  - Estimate of the rail needs to serve the potential diversions

I-81 Marketing Study Process

- Service Design and Diversion Analysis (Operations)
- Capital Investment Options
  - Multi-State Corridor
  - VA Only
- Diversion Rates (Current and Future)
  - Multi-State Corridor
  - VA Only

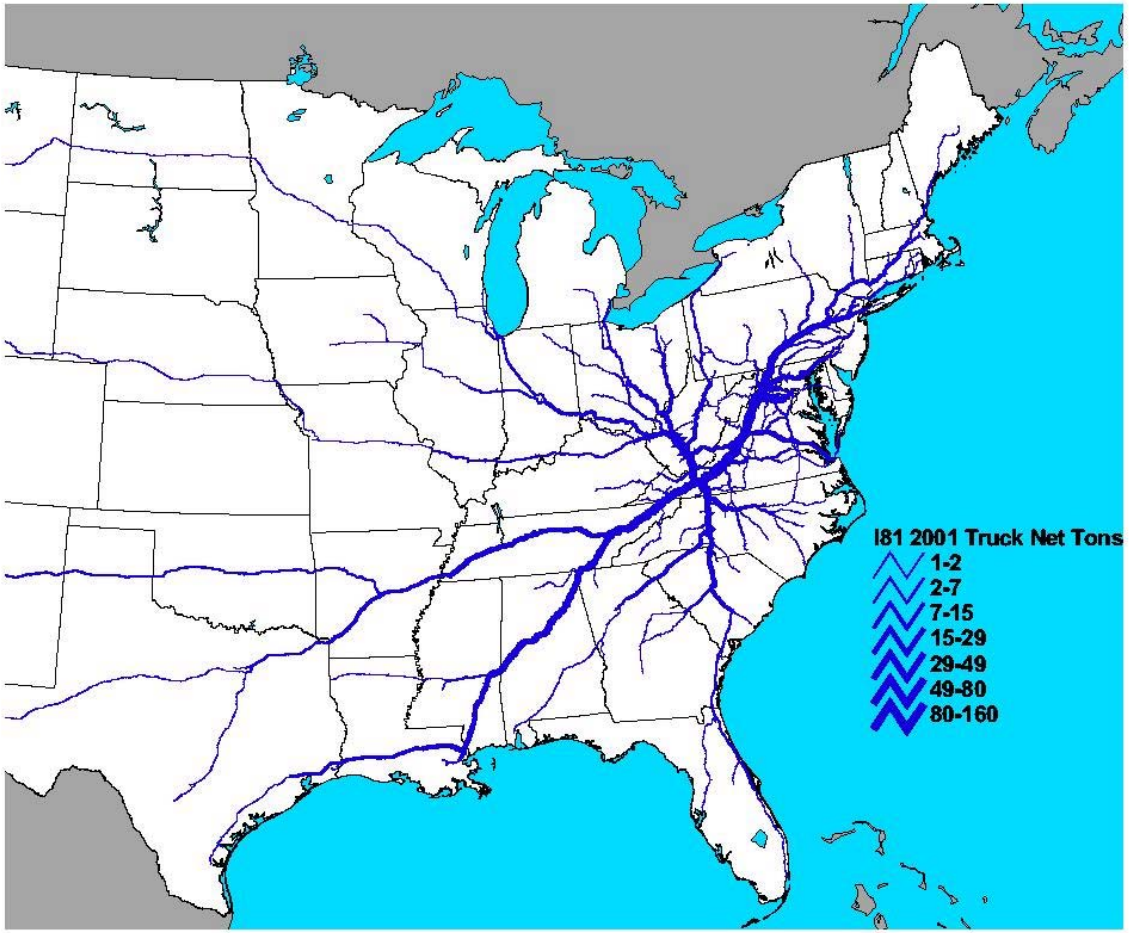
I-81 Marketing Study Area

- New Jersey, Maryland, West Virginia, Virginia, North Carolina, South Carolina, Tennessee, Georgia, Alabama, Mississippi, Louisiana, Delaware, Pennsylvania, New York, Texas
- Shippers
- Freight Forwarders
- Motor and Rail Carriers

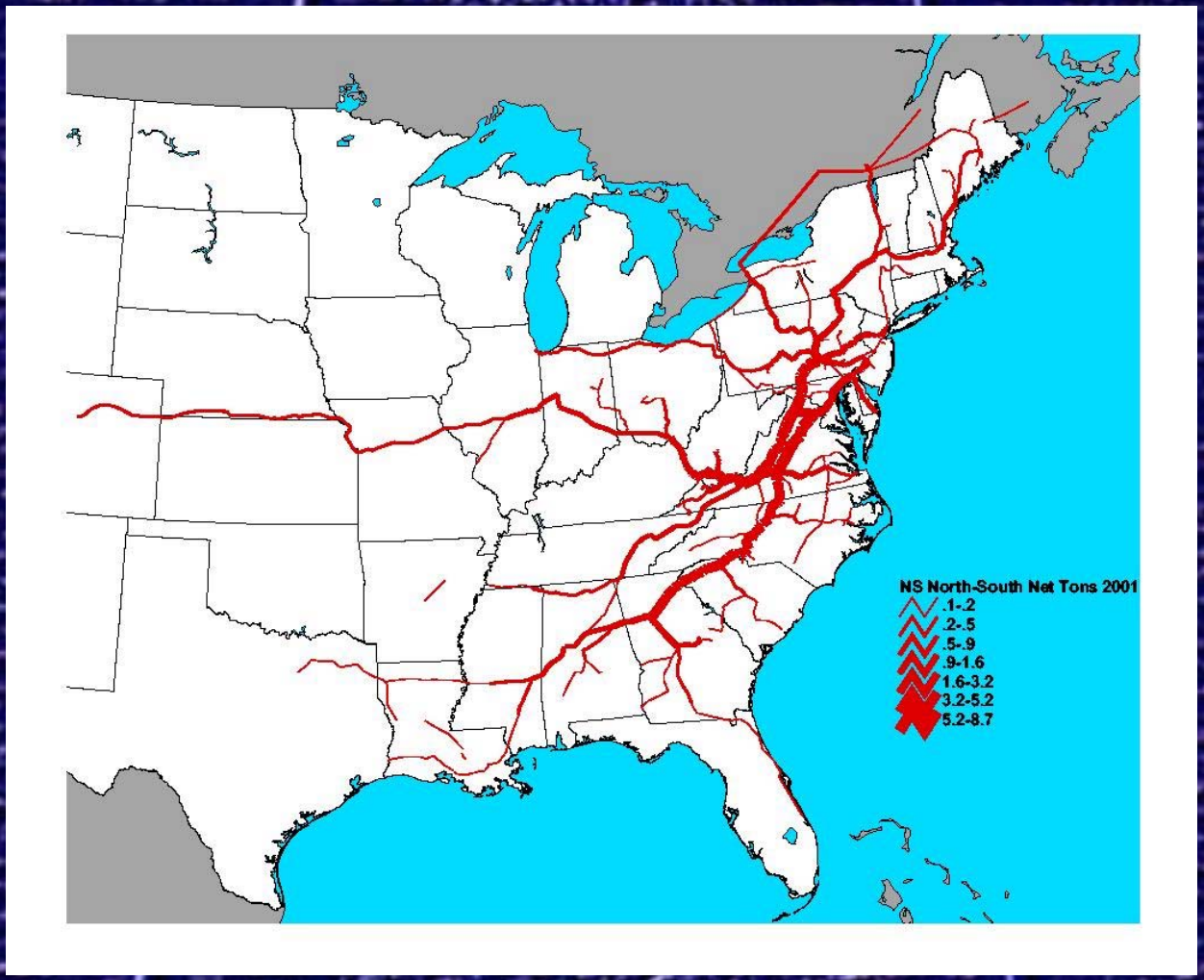
Issues, Limitations and Risks

- Alternative Scenarios
  - Multi-State Corridor
  - Virginia Only
- Capital Cost
- Public Benefits
- Local Resistance
- Addressable Market
- Carrier Performance

Current Situation - I-81 Truck Flow

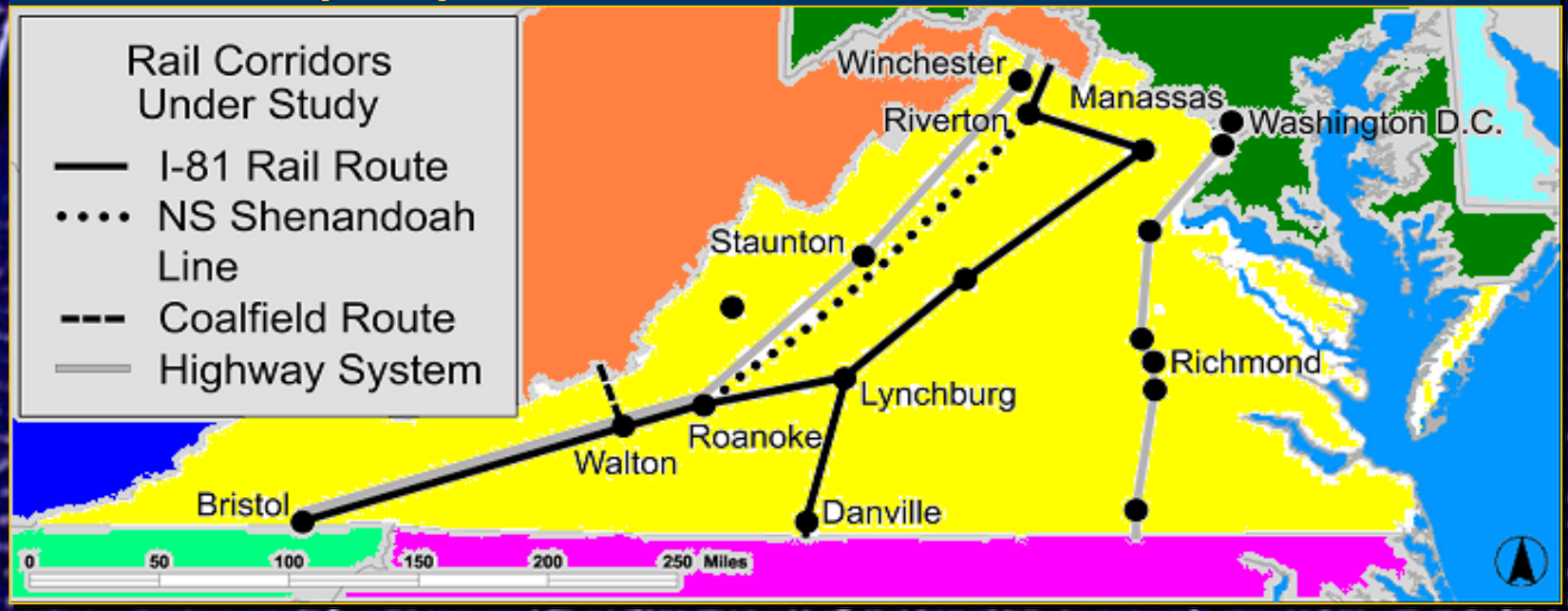


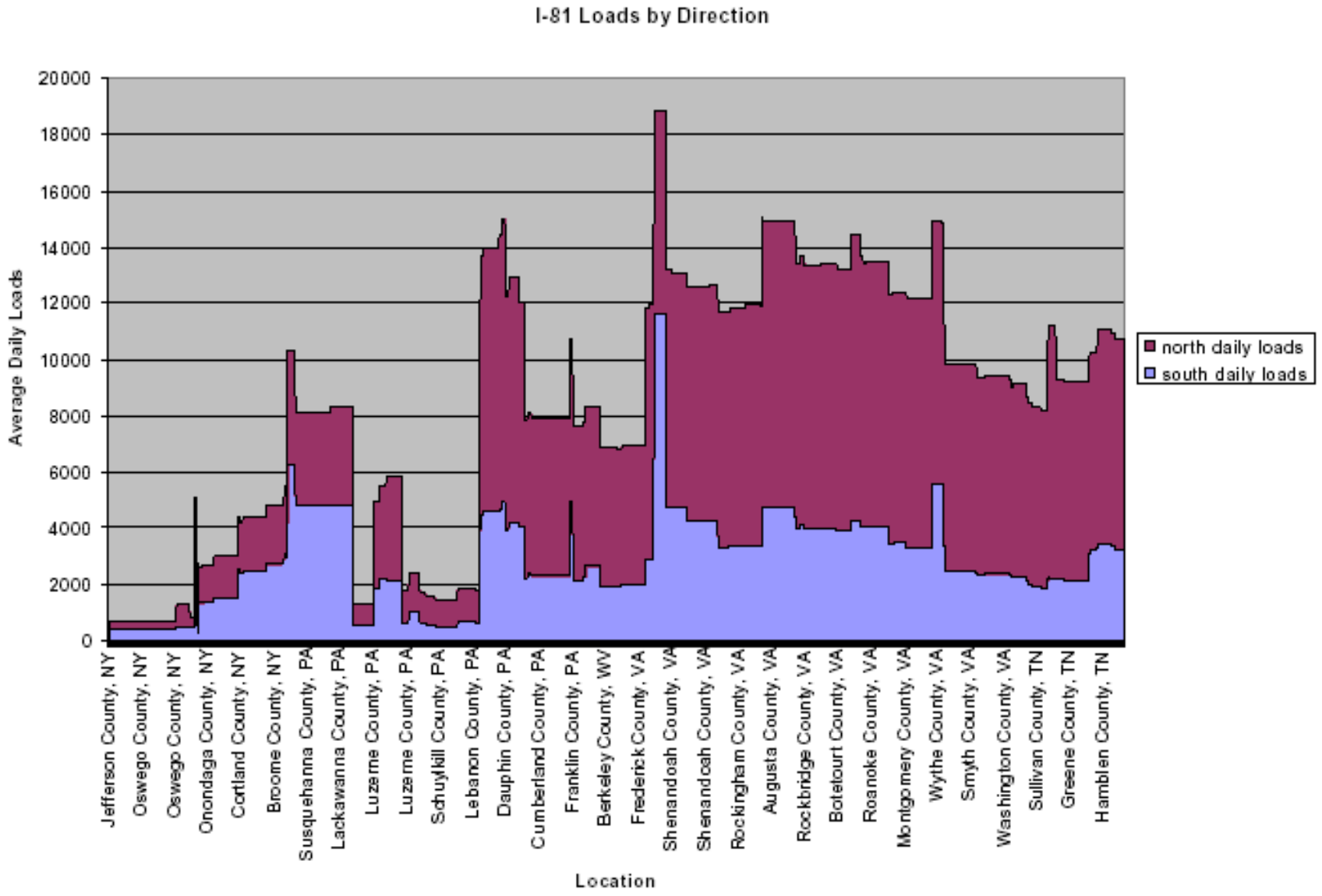
Current Situation - I-81 Rail Flow



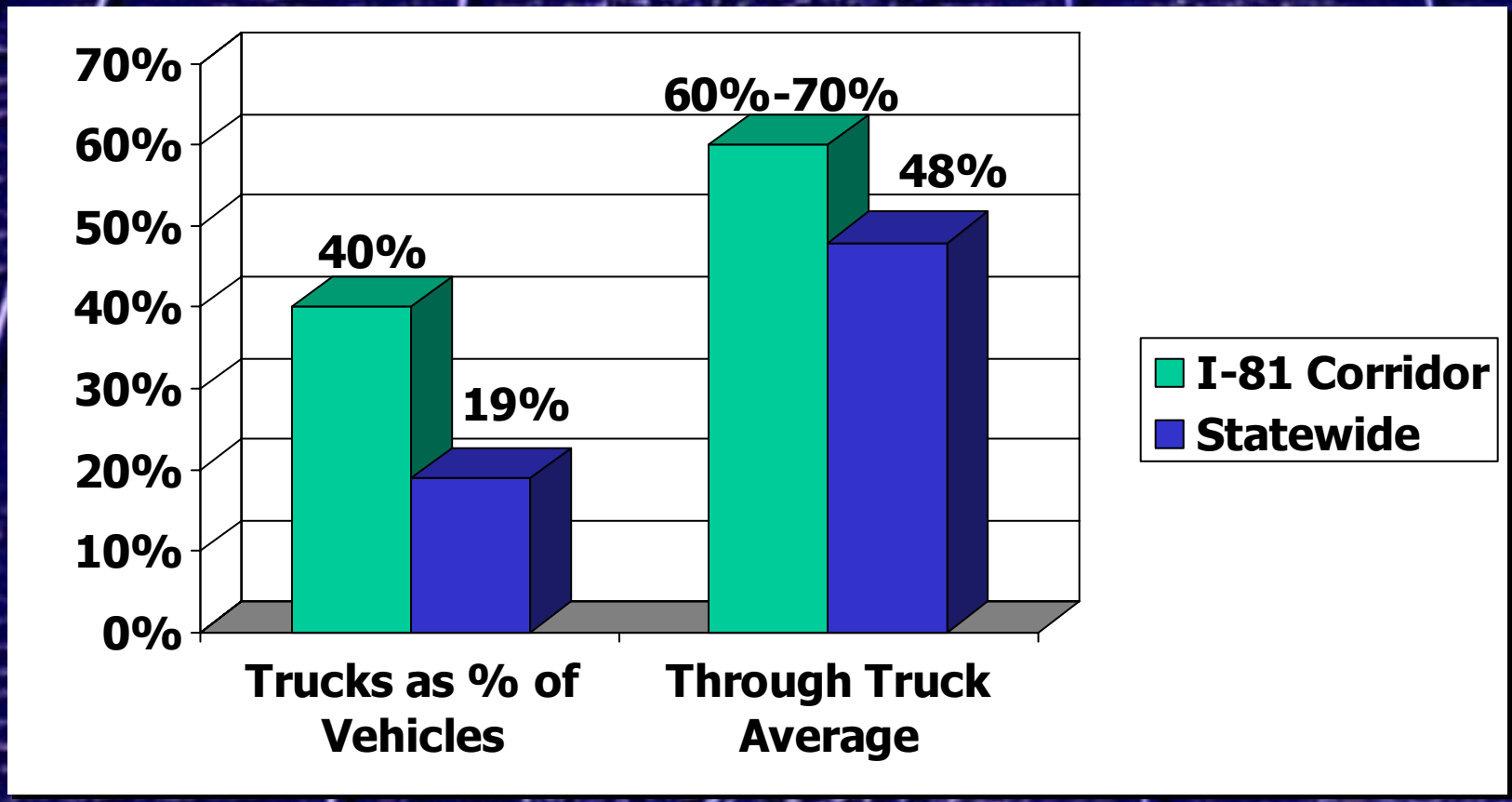
I-81 Marketing Study Rail Corridor - Virginia

- Multiple Rail Routes Parallel I-81
  - Shenandoah (NS)
  - Piedmont (NS)
  - I-95 (CSX)




I-81 Loads by Direction
Average Daily Loads
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
north daily loads
south daily loads
Jefferson County, NY
Oswego County, NY
Oswego County, NY
Onondaga County, NY
Cortland County, NY
Broome County, NY
Susquehanna County, PA
Lackawanna County, PA
Luzerne County, PA
Luzerne County, PA
Schuylkill County, PA
Lebanon County, PA
Dauphin County, PA
Cumberland County, PA
Franklin County, PA
Berkeley County, WV
Frederick County, VA
Shenandoah County, VA
Shenandoah County, VA
Rockingham County, VA
Augusta County, VA
Rockbridge County, VA
Botetourt County, VA
Roanoke County, VA
Montgomery County, VA
Wythe County, VA
Smyth County, VA
Washington County, VA
Sullivan County, TN
Greene County, TN
Hamblen County, TN
Location

I-81 Current Mix of Traffic



2020 Future Scenario (With No Improvements)

- Truck Traffic Increase of 90%
- Rail Share
  - Currently 5%
  - Can not increase without improvements
  - Without additional investment, rail share will shrink
- Growth for I-81 Corridor
  - Freight traffic expected to increase 79 - 90%

Assumptions in Diversion Analysis

- Adequate capital financing can be procured, and multi-state cooperation organized as necessary
- Local resistance does not preclude growth in rail traffic
- An "Open" Intermodal technology will be employed in the study corridors

"Open" Intermodal Technology: CP's Expressway Service

Circus ramp loading

Courtesy of Canadian Pacific Railway

Assumptions in Diversion Analysis

- Railroads will offer and maintain competitive service performance in the study corridors
- Railroads will offer compelling cost reductions to shippers and/or carriers currently operating on the study corridors
- Available infrastructure sufficient to accommodate identified traffic growth

Assumptions in Diversion Analysis

- Historical patterns of intermodal market penetration are an appropriate measure of projected penetration for lanes of similar density and distance
- The Virginia DOT-approved "No-Build" scenario for I-81 remains in place, and truck tolls are not imposed
- Proposed changes to Federal Hours of Service motor carrier regulations ultimately are implemented

Study Results

- Multi-State Corridor
- Virginia Only

Return on Investment = $\frac{\text{Capital Cost}}{\text{Diversion Rate}}$

Results of Study - All Scenarios

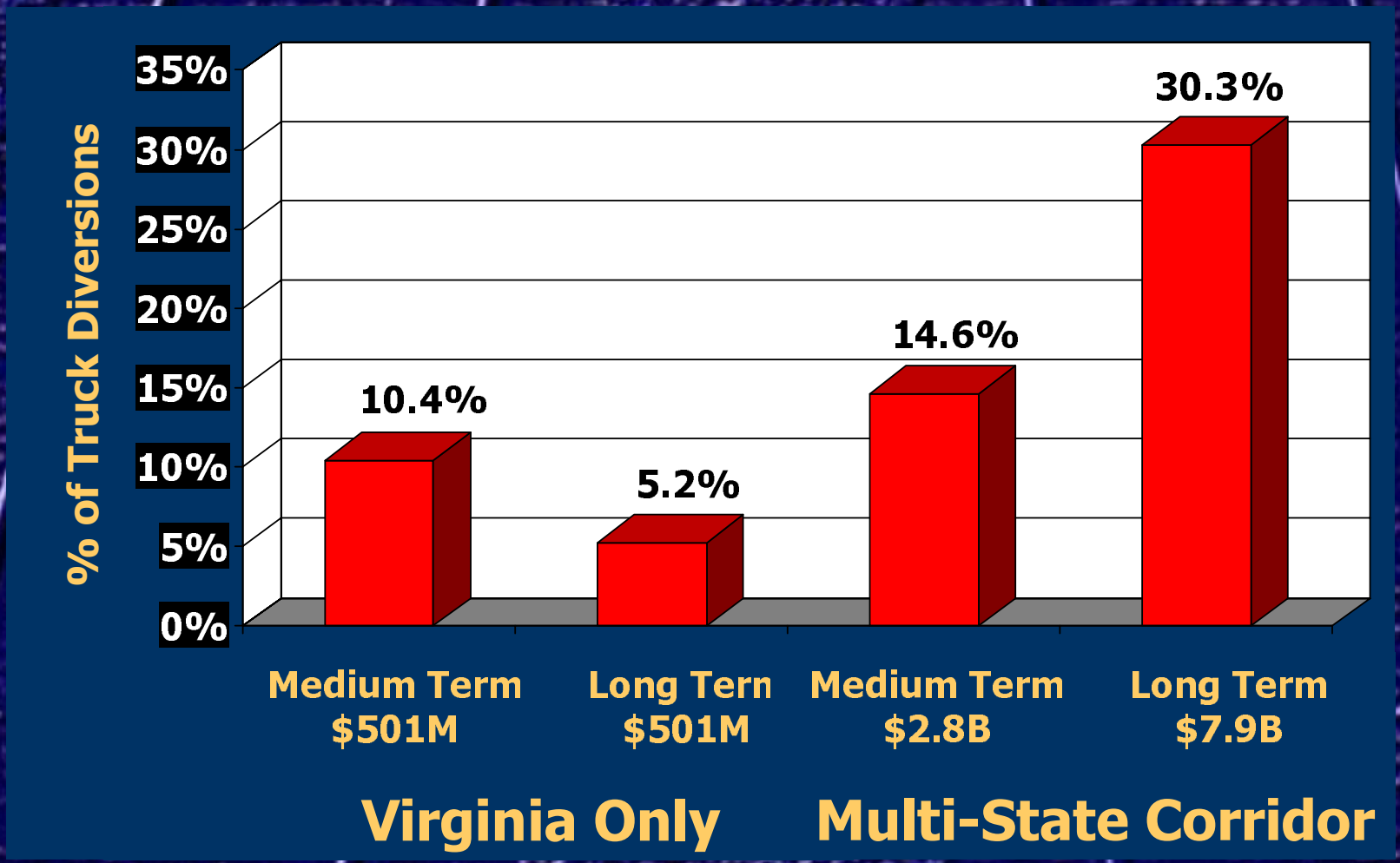


Figure 15 – Corridor Wide Investments

Estimated Right-of-Way Investment Needs for Norfolk Southern Lines by State

State	Location	Route Miles	Column A Ranges To Reduce Curvature, Increase Train Speeds (Millions)		Column B Phase I, Ranges To Increase Line Capacity (Millions)		Column C Phase II, Ranges To Increase Line Capacity (Millions)	
			Low	High	Low	High	Low	High
NJ	Manville to Phillpsburg	40.2	$ 6.9	$ 7.5	$ 29.4	$ 32.1	$ 177.4	$ 193.6
PA	Phillipsburg to Vicinity of Hagerstown MD (Mason-Dixon) via Harrisburg	172.2	$ 53.1	$ 57.9	$ 228.4	$ 249.0	$ 728.5	$ 794.7
MD	Hagerstown to Shepherd	21.4	$ 7.1	$ 7.6	$ 3.9	$ 4.2	$ 29.4	$ 32.1
WV	Shepherd to Rippon/Audley	19.3	$ -	$ -	$ 7.3	$ 7.9	$ 43.7	$ 47.7
VA	Rippon/Audley to Stokesland via Riverton Jct., Manassas and Lynchburg	282.5	$ 39.7	$ 43.3	$ 227.5	$ 248.3	$ 665.3	$ 725.7
VA	Lynchburg to Bristol including improvements to Crosstown Connection, Montview to Kinney, and Roanoke Yard Bypass Track	200.2	$ 32.7	$ 35.7	$ 132.4	$ 144.4	$ 262.9	$ 286.8
Total VA		482.7	$ 72.4	$ 79.0	$ 359.9	$ 392.7	$ 928.2	$ 1,012.5
TN	Bristol to Memphis via Knoxville, Chattanooga, Wauhatchie, CSX Joint Track to Stevenson, and line segment Wenasoga to Memphis	369.4*	$ 44.0	$ 48.0	$ 222.9	$ 243.1	$ 567.1	$ 618.7
NC	Stokesland to Grover	177.2	$ 3.1	$ 3.3	$ 53.0	$ 57.8	$ 293.7	$ 320.4
SC	Grover to Tugalo	122	$ 6.2	$ 6.8	$ 161.5	$ 176.3	$ 252.2	$ 275.0
GA	Tugalo to Tallapoosa via Howell and Austell	158.9	$ 50.0	$ 54.7	$ 153.3	$ 167.1	$ 364.0	$ 397.1
AL	Stevenson to Oldham	153.2	$ 14.3	$ 15.6	$ 121.7	$ 132.8	$ 577.1	$ 629.5
AL	Tallapoosa to Kewanee via Irondale Jct.	232.8	$ 63.9	$ 69.9	$ 93.7	$ 102.4	$ 679.4	$ 741.2
Total AL		386.0	$ 78.2	$ 85.5	$ 215.4	$ 235.2	$ 1,256.5	$ 1,370.7
MS	Oldham to Wenasoga	34	$ 8.7	$ 9.5	$ 19.2	$ 21.0	$ 108.5	$ 118.4
MS	Kewanee to Nicolson via Meridan	171.8	$ 25.4	$ 27.7	$ 142.8	$ 155.8	$ 654.1	$ 713.5
Total MS		205.8	$ 34.1	$ 37.2	$ 162.0	$ 176.8	$ 762.6	$ 831.9
LA	Nicolson to New Orleans	40.1	$ -	$ -	$ 21.5	$ 23.5	$ 82.6	$ 90.2
Total, Engineering & Contingency @ 21%		1,825.8	$ 355.1		$ 1,618.5		$ 5,485.9	
Total, Engineering & Contingency @ 32%		1,825.80		$ 387.5		$ 1,765.7		$ 5,984.6

*Includes 32.7 RM of CSX Joint Facility Track.

Figure 16

Estimated Terminal Construction and Expansion Needs by State

Terminal	State	Size	Phase I $Millions	Phase II $ Millions
Laredo	TX	Small	$21.50	$21.50
Houston	TX	Medium	18.1	35.4
Dallas	TX	Small	18.1	18.1
Subtotal	**TX**		**$57.70**	**$75.00**
Jackson	MS	Small	16.1	16.1
New Orleans	LA	Small	18.1	18.1
Atlanta	GA	Medium	21.4	41.3
Greenville	SC	Small	18.1	18.1
Charlotte	NC	Small	18.1	18.1
Greensboro	NC	Small	18.1	18.1
Subtotal	**NC**		**$36.20**	**$36.20**
Huntsville	AL	Small	16.1	16.1
Memphis	TN	Small	18.1	18.1
Knoxville	TN	Small	18.1	18.1
Subtotal	**TN**		**$36.20**	**$36.20**
Roanoke	VA	Small	18.1	18.1
Alexandria	VA	Small	21.5	21.5
Subtotal	**VA**		**$39.60**	**$39.60**
Rutherford	PA	Small	18.1	18.1
Morrisville	PA	Medium	18.1	35.4
Subtotal	**PA**		**$36.20**	**$53.50**
North Jersey	NJ	Large	42.8	$156.70
Total			**$338.50**	**$506.90**

Train Volume Increases - NS Lines

- Current Train Volumes
  - 22-27 Trains
- Short-Term/Virginia Only Investment
  - 6-12 Train Increase
- Long-Term/Corridor Investments
  - 22-98 Train Increase (Depending on Segment)

Study Conclusions

- Diversion of Freight from Highway to Rail Will Take Place
  - Depends on investment
  - Depends on railroad's success (marketing and service)
  - Without Long Term Investment, rail market share will decrease over time
- Trucks on I-81
  - Expected to increase even with significant (3M) diversions to rail

Policy Discussion Issues

- Appropriate levels of public/private cost sharing
- Community impacts of increased rail freight traffic
- Protecting public investment in private right-of-way
- Assessing tradeoffs of highway vs. rail investments to provide maximum benefit to overall system
- Tradeoff between "Virginia Only" and "Multi-State" investments

Questions


DRPT
Virginia Department of Rail and Public Transportation
The Smartest Distance Between Two Points